ID-40

MANUAL

RFID Medium Range Reader

ID Innovations

Advanced Digital Reader Technology

------Better by Design

PRODUCT DESCRIPTION

Introduction

The ID-40 is an inexpensive medium-range reader for the popular EM4001 format 125KHz tags. Read ranges of over 40cm(typically 45cm) are possible with ID-Innovations long range cards. The ID-40 also features RS232, Wiegand26, and Magnetic ABA Track2 output formats. The reader is encapsulated for environmental protection. The ID-40 provides solutions for medium-range RF reader applications such as some through wall readers.

- Long Read Range
- Through-wall applications
- Strong Water Resistant Enclosure
- 7-13VDC working

Features Description

DSP (Digital Signal Processing) is used to provide good range and reduce vibration and electrical noise effects. These effects are not eliminated so care should still be taken to position the equipment away from sources of electrical noise and vibration.

Installation

Position the ID-40 away from sources of interference such as main wiring. Do not fix the reader antenna on solid steel objects or range loss will occur. Moderate metal fixtures are acceptable. Computer monitors used in DOS mode can result in powerful interference especially when older monitors are used. Vibration can also cause loss of range.

SPECIFICATIONS

Table 1. ID-40 Operational & Physical Characteristics

Parameter	Conditions
Power Requirements	7-12V DC
Current Consumption	80mA nominal
Frequency	125 KHz
Read Range	Over 40 cm with ID-Innovations Long Range Cards
Interfaces	RS232 (9600, n, 8, 1), Wiegand26 and Magnetic ABA Track(ii)
Transponder	Read-only 64 bits, Manchester encoded
Read Indication	LED and Beeper
Dimensions	115mm x 75mm x 18mm
Nominal Weight	250gm

DATA FORMATS

Output Data Structure – ASCII

STX (02h)	DATA (10 ASCII)	CHECK SUM (2 ASCII)	CR	LF	ETX (03h)

[The 1byte (2 ASCII characters) Check sum is the “Exclusive OR” of the 5 hex bytes (10 ASCII) Data characters.]

Output Data Structure – Wiegand26

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
P	E	E	E	E	E	E	E	E	E	E	E	E	O	O	O	O	O	O	O	O	O	O	O	O	P
Even parity (E)													Odd parity (O)												

P = Parity start bit and stop bit

Output Data Magnetic ABA Track2

10 Leading Zeros	SS	Data	ES	LCR	10 Ending Zeros

[SS is the Start Character of 11010, ES is the end character of 11111, LRC is the Longitudinal Redundancy Check.]

REFERENCE DATA

Table 2. Cable Signal Definitions

Wire color		Description
Red	PWR	+12V DC input
Black	GND	Ground
Violet		Reserved for future use
Blue		Used to Select Magnetic
White		Card Present (Magnetic)
Green		Data1 (Wiegand). ASCII (9600, n, 8, 1). Clock (Magnetic)
Brown		Data 0 (Wiegand). Inverted ASCII (9600,n,8,1). Data (Magnetic)
Yellow		Program line (format selector)
Screen	GND	Earth Screen

* If the host controller does not have pull-up resistors then add 1.5k pull-up resistors to Wiegand and Magnetic outputs.

Table 3. Output Format Programming

Output Format	Programming
ASCII	Connect PRGM (Yellow wire) to Black wire
Wiegand26	Connect PRGM (Yellow wire) to Red wire
Magnetic ABA Track(ii)	Connect PRGM (Yellow wire) to Blue

Specifications subject to change. ID Innovations reserves the right to change its products and the specifications given here at any time without notice.